



DATA SHEET

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Title:	DECALS & DRY TRANSFERS
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DECALS AND DRY TRANSFERS

PART I - DECALS

1. What are decals?

Decals are graphic designs and/or alpha/numerics printed on a film (carrier) of lacquer, acrylic or plastic for placement upon a suitable surface.

A. Wet decals or wet transfers:

Wet decals are designed for use by soaking in water to remove them from the paper/film backing and then placed on the model.

B. Self-Adhesive decals:

Those decals designed for placement on objects by the means of an adhesive already on the back of the film of the decal.

C. Thin-film:

These are decals printed on very thin film (carrier)

2. What are dry Transfers?

A. Rub-ons

Refer to Part II of this Data Sheet

3. Tools & Materials Needed

A. X-Acto Knife #10 blade, razor blades, scalpel, scissors, toilet tissue, napkins, cotton balls, small paint brushes, tweezers, sewing needle, Scotch Drafting Tape, Opti-Visors or equivalent, straightedge, soft bristle brush for cleaning surface of model, airbrush, burnishing tool. Not all are needed. Some of these tools are illustrated in Figure 1.



Figure 1: TOOLS & MATERIALS

- 1 - Decals
- 2 - Dry transfers
- 3 - Burnisher
- 4 - X-Acto knife
- 5 - Tweezers
- 6 - Soft brush
- 7 - Setting solutions
- 8 - Bowl of water
- 9 - Future Floor Polish
- 10 - Decal catalogue



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TOOLS & MATERIALS - continued

B. Water

Use very warm - not hot water.

1. Dishwashing Liquid

Put a drop of non-scented dishwashing liquid that has no additives into the water. This will break the surface tension of the water and make it "wetter". A good example is Ivory Liquid.

2. Rubbing Alcohol

A couple of drops will do the same as the dishwashing liquid.

3. Tray or Bowl?

Preferably, use a wide, low bowl that can provide a surface area above the water line to slide the decals as they soak. A saucer or tray may accomplish the same thing.

C. Setting Solutions

1. Microscale's Micro Set

Micro Set is a very versatile decal setting solution that does several things to the decals to improve application. Micro Set should be applied to the surface of the model where you will be sliding off the decal. Micro Set prepares the surface with special wetting agents that cut the oils in new paint and converts the adhesive on the back of the decal to a stronger and more lasting one. And finally, Micro Set slightly softens the decals film to make it more flexible so that it can conform better to the model's surface. Better adhesion by the decal to the model prevents tiny air bubbles from occurring and results in an invisible carrier film or the so called 'painted on look'.

D. Decal Solvents

1. Microscale's Micro Sol

Micro Sol setting solution is for the most difficult irregular surfaces you find on models. It completely softens the decal allowing it to drape down onto the surface of the model conforming perfectly and without distortion. You can get the most amazing results in seemingly impossible places, because Micro Sol actually makes the decal part of the paint. For that reason you should coat Micro Sol on for only a few seconds and then leave it alone, it does the work. Do not try to adjust the decal at this time.

2. Walthers Solvaset

Walthers Solvaset is a much higher concentrated solution, and, should be used very sparingly on the decal. The decal will react much more quickly. Use a small paint brush dipped into the solution and then wiped against the bottle lip to remove as much from the brush as possible. When applying to the decal allow only the weight of the brush on the decal and move in slow easy strokes, and always in the same direction or from the center to the outer diameter of the decal.



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DECALS - continued

4. What comes before?

A. Surface Preparation

1. Smoothing of surface

a. Sanding

If the model is plastic, the surface must be free of any imperfections such as bumps, ridges, cuts, gouges, seams, chips, etc. To make sure these are eliminated, any deep ones must be filled in with a filler material like Squadron Green Putty and then sanded. Wood models do not need any sanding other than what is necessary to remove any fuzz on the individual pieces.

b. Washing

After all this has been done, if the model is plastic, you must wash the surface to remove any body oils, grease and/or smudges that may be on the surface. These will cause the paint to adhere in an uneven consistency over the surface of the model. You do not wash a model made from wood.

c. Glosscoat Finish

After the model has been painted, it must be sealed with a clear coat of glosscoat to insure the finish is intact and that the surface remains as smooth as possible. It is only necessary, as far as the decals are concerned, to spray those areas on which the decals will be applied. Depending upon your desire, you may not want to spray a gloss finish on a wood model. You will lose the grain.

d. Future Floor Polish (Acrylic)

An alternative to Glosscote is the use of Future Floor Polish. This is an acrylic and as such, is easy to apply with an air brush and also maintains the finish, settles into all the imperfections and creates an even, smooth surface to which the decals can adhere. It is only necessary, as far as the decals are concerned, to spray those areas on which the decals will be applied. It can be sprayed in the same consistency as when it is in the bottle.

B. Decal Preparation

1. Old Decals

A. Salvageable?

1. Cracking or Fracturing

If the decals fracture or shatter when placed into the water, try to salvage them by spraying on a thin film of glosscote, let dry and try another section of the decal set in the water. Sometimes, the decal is so old you will not always be successful. The film on the sheet will already be cracked into many pieces and only shows up when put into the water. Microscales's Micro Coat Liquid Film can also be used. Simply take a small brush and coat the image on the decal you want to use. Allow to dry and proceed as usual.



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DECAL PREPARATION - continued

2. Discoloration

You might try an application of Floquil paint of the same color prior to use. The water based paints have tendency to crack after drying and cannot take contours readily. An alternative is to apply the paint after the decal has been positioned and dried.

3. Curled Sheets

a. Restoration

A careful, light application of your water solution to the backing paper with a spray bottle and laid face down on waxed paper may help to flatten the sheet. Be prepared to lose some of the decals through cracking.

5. Techniques of Application

A. Alignment & Positioning

The easiest way is to use the lines created on the model when produced. The boards for vertical alignment and horizontal spacing; rivet lines, panel separations, piping, etc. can also be used. When these are not available, you can tape a straight edge to the model for positioning. Long stripes can be aligned by sighting along the length. Figure 2 shows the technique for sliding the decal off the carrier film and onto the model.



Figure 2: TECHNIQUE USED TO SLIDE DECAL OFF CARRIER FILM AND ONTO THE MODEL

B. Glue

1. Why is it there?

Glue is there for one reason - to assist in helping the decal adhere to the side of the model. However, when you remove the water/setting solution from between the decal and the model, you create a space with no air and atmospheric pressure holds the decal against the model. You can decide to leave the glue and run the risk of white spots and glue build-up under the decal which will not allow the decal to completely adhere to the model.



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DECAL PREPARATION - continued

C. Removal of water

Failure to remove all the water/setting solution from between the decal and the model will not allow the decal to completely adhere to the model as it dries, resulting in voids, silvering and a decal that is not smooth, flat to the surface of the model or is wrinkled.

6. Problems Encountered

A. Bubbles in Film

Bubbles are created by pockets of air trapped between the decal and the surface of the model. First, wait for the decal to completely dry. Take a new X-Acto blade and poke a hole into the bubble, apply only enough decal solvent to cover the bubble and wait a minute. Take a moistened tissue and carefully press on the bubble to force the air from under the decal and allow to dry. Repeat when necessary.

B. Silvering

The same technique used for bubbles can be applied here.

C. Wrinkling or Shriveling

1. Which solvent to use

If the edges of the decal are dried, the probability of removing the wrinkles or shriveling is very low as the decal will have no place to move. So, the problem must be attacked while the decal is still moist. Apply a very, very light amount (a moist brush) of Walters solution to the complete decal. Take the brush and starting at the outside edges of the decal pull the decal away from its center. Use only the weight of the brush and no more as the decal will have a great tendency to tear. Slowly repeat this until the decal has flattened out.

D. Adhering to contours

1. Slicing up the decal

When applying a decal to an irregular surface you must start in the middle of the decal and work your way to the outer edges allowing it to conform to the innermost contours and then each successive contour as you work your way to the outer edges. Again the application of the decal setting solution and the drawing of the brush over the decal will allow it to settle. When the decal lays over board or panel separations, doors or hatches, it is possible to cut the decal along those separations. However, you must wait for the decal to completely dry before attempting this. Take your new X-Acto blade and allowing only the weight of the knife to rest on the decal, slow draw the knife along the separation. Then apply the decal solvent. This will allow the decal to fold into the separations and give the appearance of a real painted sign or logo.



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DECALS - continued

7. Protective Finishes

A. What goes on top of the decal?

1. Glosscote/Dullcote

You must always apply a gloss finish to the decal once you are satisfied with its appearance. This will give the appearance of a painted sign or logo and help to hide the edge of the decal film. After the gloss finish has dried, you can then apply a dull finish and/or weather to your heart's content.

2. Future Floor Polish (Acrylic)

Future floor polish is an acrylic and as such can be applied in lieu of a glosscoat finish. Combined with its application to the model prior to placement of the decal, it will provide an almost seamless appearance and completely hide the decal edges.

PART II - DRY TRANSFERS

1. What are dry transfers and how are they made?

Whereas decals are painted on a film and the film is put on the model, the dry transfer leaves the paint on the model and the film is only used to transfer the object to the model. This is done by placing the film with the letter or design against the model and then it is rubbed with a burnishing tool leaving the letter or design on the model.

2. Tools and Materials needed.

The same tools as listed on page 1.

3. What comes before?

A. Surface Preparation

1. Smoothing of surface

a. Sanding

If the model is plastic, the surface must be free of any imperfections such as bumps, ridges, cuts, gouges, seams, chips, etc. To make sure these are eliminated, any deep ones must be filled in with a filler material like Squadron Green Putty and then sanded. Wood models do not need any sanding other than what is necessary to remove any fuzz on the individual pieces.

b. Washing

After all this has been done, if the model is plastic, you must wash the surface to remove any body oils, grease and/or smudges that may be on the surface. These will cause the paint to adhere in an uneven consistency over the surface of the model. You do not wash a model made from wood.



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SURFACE PREPARATION - continued

c. Glosscoat Finish

After the model has been painted, it must be sealed with a clear coat of glosscoat to insure the finish is intact and that the surface remains as smooth as possible. It is only necessary, as far as the decals are concerned, to spray those areas on which the decals will be applied. Depending upon your desire, you may not want to spray a gloss finish on a wood model. You will lose the grain .

d. Future Floor Polish (Acrylic)

An alternative to Glosscote is the use of Future Floor Polish. This is an acrylic and as such, is easy to apply with an air brush and also maintains the finish, settles into all the imperfections and creates an even, smooth surface to which the transfers can adhere. It is only necessary, as far as the transfers are concerned, to spray those areas on which the transfers will be applied. It can be sprayed in the same consistency as when it is in the bottle.

B. Preparation

1. Old Dry Transfers

A. Salvageable?

1. Cracking

Transfers can be saved by applying a small amount of paint of the same color to the affected area.

2. Discoloration

a. Stains

The color of dry transfers generally holds up well. However, if needed, a small amount of paint can bring back the luster.

B. Curled Sheets

1. Restoration

This is usually not a problem with dry transfers.

4. Techniques of Application

A. Alignment & Positioning

The easiest way is to use the lines created on the model when produced. The boards for vertical alignment and horizontal spacing; rivet lines, panel separations, piping, etc can also be used. When these are not available, you can tape a straight edge to the model for positioning. Long stripes can be aligned by sighting along the length.



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TECHNIQUES OF APPLICATION - continued

5. Problems Encountered

A. Adhering to contours

When the transfer lays over board or panel separations, doors or hatches, it is possible to cut it along those separations. However, you must make sure the transfer has securely adhered to the surface before attempting this. Take your new X-Acto blade and allowing only the weight of the knife to rest on the transfer, slowly draw the knife along the separation. Then work the edges into the separations. Afterwards, seal as per your preference.

B. Stretching of the carrier film.

When burnishing the transfer onto the model the carrier film has a tendency to stretch. So, after each letter is applied be sure that you are maintaining the alignment so the complete set of letters/signs are correctly applied. Figure 3 shows the technique for applying a dry transfer to a model.



Figure 3: BURNISHING A DRY TRANSFER

6. Protective Finishes

A. What goes on top of the dry transfer?

1. Glosscote/Dullcote

You must always apply a gloss finish to the transfer once you are satisfied with its appearance. This will help to seal the individual letters to the model. After the gloss finish has dried, you can then apply a dull finish and/or weather to your heart's content.

2. Future Floor Polish (Acrylic)

Future floor polish is an acrylic and as such can be applied in lieu of a glosscoat finish. Combined with its application to the model prior to placement of the transfer(s), it will provide excellent protection for the transfer(s).

